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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/653,909	09/04/2003	Hwan Kim	049128-5129	3791
9629	7590	07/23/2004	EXAMINER	
MORGAN LEWIS & BOCKIUS LLP 1111 PENNSYLVANIA AVENUE NW WASHINGTON, DC 20004			NGUYEN, THANH T	
			ART UNIT	PAPER NUMBER
			2813	

DATE MAILED: 07/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/653,909

Applicant(s)

KIM ET AL.

Examiner

Thanh T. Nguyen

Art Unit

2813

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Priority

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119 (a)-(d).

Oath/Declaration

Oath/Declaration filed on 9/4/03 has been considered.

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Objections

Claim 4 is objected to because of the following informalities: the limitation He should be in the parenthesis. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Admitted Prior Art in view of Chebi et al. (U.S. Patent No. 2004/0137741).

Referring to figures 1-4, The Admitted Prior Art teaches fabricating method of a liquid crystal display, comprising the steps of:

Inserting a first substrate into a chamber to perform a dry etching process (see figure 4, paragraph# 14).

Removing the first substrate from the chamber after completion of the dry etching process (see figure 4, paragraph# 14);

Inserting a dummy substrate into the chamber (see figure 4, paragraph# 14);

Injecting gas into the chamber to eliminate a process byproduct and remaining gas ();

Taking the dummy substrate out from the chamber (see figure 4, paragraph# 14); and

Inserting a second substrate into the chamber having the process byproduct and the remaining gas removed, to perform an ashing process (see figure 4, paragraph# 14).

Regarding to claim 2, dry-etching a gate metal layer that is deposited on the first substrate (see figure 4, paragraph# 14).

Art Unit: 2813

Regarding to claim 3, dry-etching a protective film that is deposited on the first substrate (see figure 4, paragraph# 14).

Regarding to claim 5, making a photo resist pattern thinner, wherein the photoresist pattern is formed on the second substrate (see figure 4, paragraph# 10).

Regarding to claim 6, the photo resist pattern overlaps a channel part of a thin film transistor formed on the second substrate (see figure 4, paragraph# 9).

Regarding to claim 7, ashing gas injected into the chamber, the ashing gas includes SF₆ gas and O₂ gas (see paragraph# 14 of the admitted prior art).

Regarding to claim 8, the SF₆ gas to O₂ gas ratio is 1:20 (see paragraph# 14 of the admitted prior art).

However, the Admitted Prior Art does not teach injecting helium inert gas into the chamber to eliminate a process by product and a remaining gas.

Regarding to claim 4, Chebi et al. teaches the inert gas includes helium gas (He) (see paragraph# 34, 41).

Therefore, it would have been obvious to a person of ordinary skill in the requisite art at the time of the invention was made would injecting helium inert gas into the chamber to eliminate a process by product and a remaining gas in process of the Admitted Prior art as taught by Chebi et al. because the process would reduce contamination on the semiconductor substrate.

Conclusion

Art Unit: 2813

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh Nguyen whose telephone number is (571) 272-1695, or by Email via address Thanh.Nguyen@uspto.gov. The examiner can normally be reached on Monday-Thursday from 6:00AM to 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead, Jr., can be reached on (571) 272-1702. The fax phone number for this Group is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956 (**See MPEP 203.08**).



Thanh Nguyen
Patent Examiner
Patent Examining Group 2800

TTN